

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
6 January 2005 (06.01.2005)

PCT

(10) International Publication Number  
WO 2005/002298 A2(51) International Patent Classification<sup>7</sup>: H05K(21) International Application Number:  
PCT/US2004/019342

(22) International Filing Date: 16 June 2004 (16.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/479,184 18 June 2003 (18.06.2003) US(71) Applicant (for all designated States except US): BROAD-  
BAND INNOVATIONS, INC. [US/US]; 3550 General  
Atomics Court, Building 15, San Diego, CA 92121 (US).

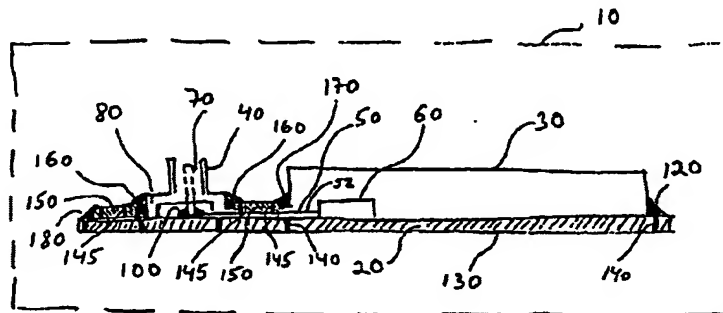
(72) Inventor; and

(75) Inventor/Applicant (for US only): PETROVIC,  
Branislav [US/US]; 5936 La Jolla Hermosa Ave., La  
Jolla, CA (US).(74) Agent: NATH, Gary, M.; Nath & Associates PLLC, 6th  
floor, 1030 15th Street, N.W., Washington, DC 20005-1503  
(US).(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, GR, GU, HT, HU, ID, IL, IN, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished  
upon receipt of that reportFor two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: LOW EMI WITH HIGH MECHANICAL STRENGTH METHOD OF CONNECTING SIGNAL CONNECTIONS



(57) Abstract: A Low cost apparatus and method of EMI (electromagnetic interference) shielding of physical connections of signal lines to signal connectors on PCBs (printed circuit boards) is disclosed. The method is particularly suitable for low cost connections of SMT (surface-mount) RF (radio frequency) connectors to PCB signal lines, providing high mechanical strength and low EMI. This is achieved by constructing an enclosed shield around the connector and around the signal feed line, by the means of an auxiliary printed circuit board installed around the connector and on top of the micro-strip transmission line, providing the top side ground plane, as well as mechanical support for the connector. The auxiliary PCB is secured and connected to the ground of the main PCB and to the metal body of the connector, while the copper on the under-side of the auxiliary PCB (located above the signal line) is etched away, to provide electrical isolation of the signal line from ground. This way, an effective, fully enclosed EMI shield, grounded to the main circuit ground is formed around the connector and above the micro-strip transmission line.